HYDRA·FLEX
FLUID INNOVATION

VEHICLE WASH CATALOG
VOLUME 1

www.hydraflexinc.com • 952-808-3640

INDEX / ABOUT US

HFI Corporate Headquarters, Burnsville, MN

ABOUT US:

Hydra-Flex was founded in 2002 with a principle focus on ***"finding a better way"*** to manufacture innovative and reliable fluid handling products for the vehicle wash industry. An expert company in fluid dynamics with accomplished engineering, manufacturing, sales, and support staff, our mission is to develop innovative products that solve problems, save precious resources, reduce operating costs, and provide exceptional and measurable results for our customers.

OUR CULTURE:

- **Customer Focused** – We understand that our customers are the reason we're in business.
- **Teamwork** – We believe that teamwork divides the task and doubles the success.
- **Integrity** – We work hard and play hard. Our success is defined not just in the products that we make but in the people who are making them.
- **Results Driven** – We believe that what gets measured improves.

OUR CORE VALUES:

INNOVATION

RELIABILITY

ACCURACY

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CHEMICAL DISPENSING SYSTEMS

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OUR INDUSTRIES:

VEHICLE WASH

SANITATION

INDUSTRIAL CLEANING

HYDRO-EXCAVATION

LAUNDRY/WAREWASHING

WASTEWATER TREATMENT

AGRICULTURE/HORTICULTURE

AQUA-LAB™ - DO MORE WITH LESS

Aqua-Lab Chemical Dispensing Systems were developed using Hydra-Flex's innovative, patented[1] technology to provide the vehicle wash industry a chemical dispensing system that will ***Do More With Less***. Our reliable and efficient systems will deliver consistent and accurate mixed solution, improving your chemical performance and vehicle coverage while using less water and chemistry, taking up less space, and requiring less ongoing maintenance than traditional mixing, dosing, and pumping equipment. With thousands of systems in operation, Hydra-Flex has become ***The Most Trusted Name in Chemical Dispensing.***

CONSISTENT AND ACCURATE CHEMICAL DELIVERY

Many traditional chemical dispensing systems rely on municipal water pressure, which can fluctuate from 30-100 PSI, with spikes of up to 200 PSI. Because Aqua-Lab uses regulated, boosted-pressure you don't have to worry about fluctuations in water pressure affecting your chemical dilution ratios. The properly diluted solution is delivered to the applicator, every time. And because of its precise control, Aqua-Lab is the preferred equipment solution for use with hyper-concentrated chemistries.

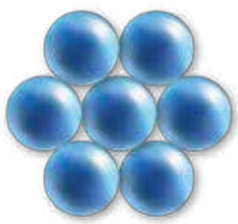
IMPROVED VEHICLE COVERAGE

Chemistry is applied to the car not the floor. Unlike traditional delivery systems, you don't have to overcompensate for weak application pressure by increasing the flow rate. Aqua-Lab uses the same dilution ratio but increases the delivery pressure, resulting in less solution used with better vehicle coverage and stunning visual results.

THE SCIENCE BEHIND IT

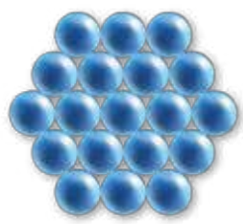
LOW PRESSURE **VS.** **HIGH PRESSURE**

TRADITIONAL CHEMICAL DISPENSING SYSTEMS

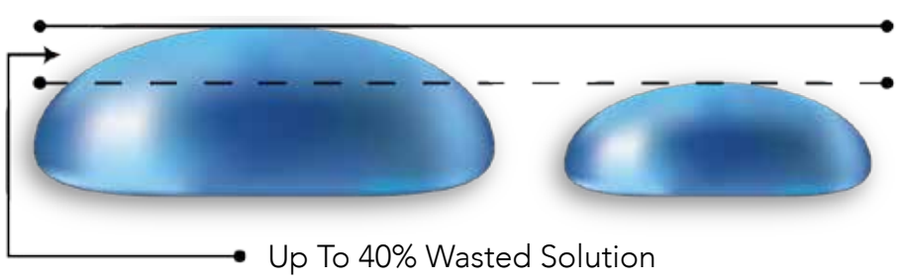


Lower pressure results in larger water droplets and less coverage area.

AQUA-LAB™ CHEMICAL DISPENSING SYSTEMS



Higher pressure results in smaller water droplets and more coverage area.



[1]*US Patents: US8807158 B2, US 8322367, US8678237, other patents pending.*

[2]*Reed Construction Data 2013, U.S. National Average for Car Wash Square Foot Building Cost Assuming Brick with Concrete Block Back-Up / Bearing Walls.*

AQUA-LAB™ - DO MORE WITH LESS

SMALL FOOTPRINT

All components can be wall mounted, and system accurately delivers solution without cumbersome mixing tanks. Compare the wall space required to hang a bank of 12+ mixing tanks to the less than 20 sq. ft. required for the equivalent Aqua-Lab system at the national average build cost of $313.48/sq ft.[2] and you can see the savings add up.

DURABLE, RELIABLE CONSTRUCTION

In most other dispensing systems chemistry is run through a pump to the applicator, which over time is the most common reason for failure. In Aqua-Lab systems chemistry is injected downstream of the pump. Chemistry only comes into contact with the injector, metering tip, and solution outlet line. Our systems are also designed using the most chemically resistant materials and our simple yet robust air-actuated valves offer enhanced dependability over electric solenoid valves.

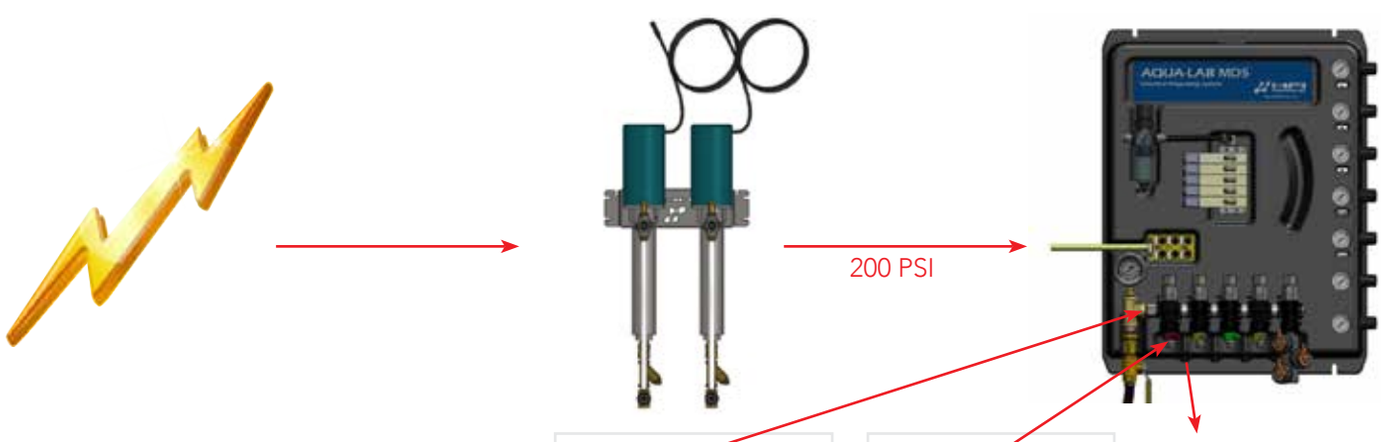
FAST AND EASY MAINTENANCE

Color-coded, quick-change chemical injectors are easy to install and replace. In the event of a pump failure, quick-connects on all water and electrical feed lines also allow fast-change out to back-up pumps.

MODULAR AND CONFIGURABLE

From a single bug prep unit to complete, integrated systems – configurations are available for any number of applications. Accessories are also available to customize Aqua-Lab to your unique equipment configuration.

HOW CHEMICAL IS DELIVERED TO THE VEHICLE



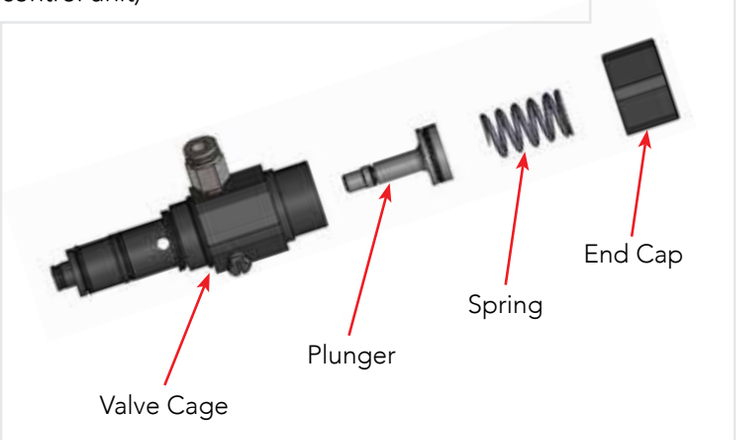
STEP 1:
A signal is generated from "Car Wash Brains" (motor control unit)

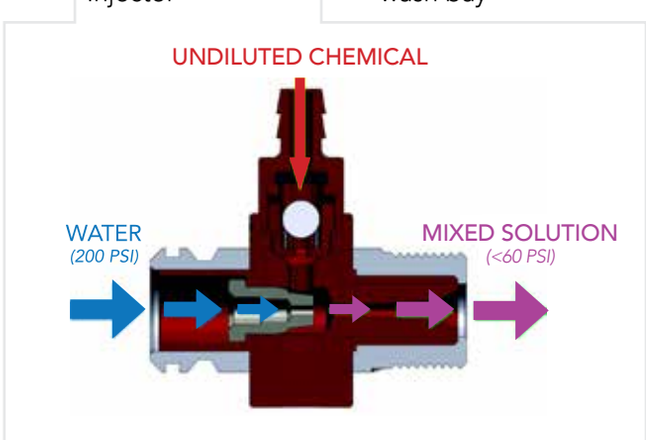
STEP 2:
Pump delivers 200 PSI of water to the *"Water Manifold"*

STEP 3:
Air-actuated water valve opens on demand

STEP 4:
Water & chemical mix in the Chem-Flex™ Injector

STEP 5:
Mixed solution is delivered to the applicator in the wash bay





TUNNEL/CONVEYOR - AQUA-LAB™ MD

AQUA-LAB MD™

MICRO DOSE CHEMICAL
DISPENSING SYSTEM

DESIGNED FOR:

Intended for use with tunnel/conveyor vehicle wash equipment, Aqua-Lab MD Micro Dose Chemical Dispensing Systems deliver precisely diluted chemistry to multiple applications simultaneously. Customizable system is equipped to feed any and all applications in your tunnel, from a ¼ GPM CTA up to high volume foam curtain applications.

UNIQUE FEATURES:

Stainless steel air-actuated valves were designed for the rigorous demands of high volume sites and were tested for reliable operation up to 700,000 wash cycles.

HOW TO CUSTOMIZE:

Select your panel(s), pump(s), and motor control unit based on the number of applicators/arches and the total GPM flow required to feed all of them. Systems are delivered pre-wired and pre-plumbed for water, air, and chemical control. Accessories are also available to customize Aqua-Lab to your unique equipment configuration.

CUSTOMIZE YOUR SYSTEM

STEP 1: PICK YOUR PANEL(S)

Choose one or a combination of panels based on the total number of arches/applications in your car wash.

AQUA-LAB MD3A

Manifold panel for up to (3) applications, pre-wired and plumbed for water, air, and chemical control. Includes (3) Pneumatic Actuated Stainless Steel Water Valves, (3) Air Valves, and (3) Air Regulators.

VOLTAGE	PART NUMBER
24 VAC	1001577
24 VDC	1001578
120 VAC	1001579

AQUA-LAB MD3A-3/5

Manifold panel for up to (3) applications (including tri-foam), pre-wired and plumbed for water, air, and chemical control. Includes (3) Pneumatic Actuated Stainless Steel Water Valves, (3) Air Valves, and (5) Air Regulators. Intended for use with a Tri-Foam Kit (sold separately).

VOLTAGE	PART NUMBER
24 VAC	1001580
24 VDC	1001581
120 VAC	1001582

AQUA-LAB MD5A

Manifold panel for up to (5) applications, pre-wired and plumbed for water, air, and chemical control. Includes (5) Pneumatic Actuated Stainless Steel Water Valves, (5) Air Valves, and (5) Air Regulators.

VOLTAGE	PART NUMBER
24 VAC	1001533
24 VDC	1001537
120 VAC	1001535

AQUA-LAB MD5A-5/7

Manifold panel for up to (5) applications (including tri-foam), pre-wired and plumbed for water, air, and chemical control. Includes (5) Pneumatic Actuated Stainless Steel Water Valves, (5) Air Valves, and (7) Air Regulators. Intended for use with a Tri-Foam Kit (sold separately).

VOLTAGE	PART NUMBER
24 VAC	1001534
24 VDC	1001538
120 VAC	1001536

STEP 2: PICK YOUR PUMP SYSTEM

Choose pump configuration based on total flow rate for all applications and number of water sources used.

AQUA-LAB SINGLE PUMP

Single pump assembly includes (1) active pump for use with (1) water source. Flow rate is 20 GPM. Pump assembly is equipped with quick-connects to both electrical and plumbing connections, thermal relief valve, wye strainer, regulator, and easy-to-mount stainless steel bracket. Includes room for 2nd pump expansion.

FLOW RATE	PART NUMBER
20 GPM	1001356

AQUA-LAB SINGLE PUMP WITH BACK-UP

Pump assembly includes (1) active pump and (1) back-up pump for use with (1) water source. Flow rate is 20 GPM each. Pump assembly is equipped with quick-connects to both electrical and plumbing connections, thermal relief valve, wye strainer, regulator, and easy-to-mount stainless steel bracket.

FLOW RATE	PART NUMBER
Single Pump Stand	
20 GPM	1001356
Back Up Pump	
20 GPM	1001362

AQUA-LAB MULTI-SOURCE PUMP

Pump assembly includes (2) active pumps for use with (2) separate water sources. Flow rate is 20 GPM each. Pump assembly is equipped with quick-connects to both electrical and plumbing connections, thermal relief valve, wye strainer, regulator, and easy-to-mount stainless steel bracket.

FLOW RATE	PART NUMBER
20 GPM (Each)	1001358

AQUA-LAB MULTI-SOURCE PUMP WITH BACK-UP

Pump assembly includes (2) active pumps and (1) back-up pump for use with (2) separate water sources. Flow rate is 20 GPM each. Pump assembly is equipped with quick-connects to both electrical and plumbing connections, thermal relief valve, wye strainer, regulator, and easy-to-mount stainless steel bracket.

FLOW RATE	PART NUMBER
20 GPM (Each)	1001360

CUSTOMIZE YOUR SYSTEM

STEP 3: PICK YOUR MOTOR CONTROL UNIT

Choose motor control unit based on pump configuration.

SINGLE MOTOR CONTROL UNIT

For use with Single or Single with Back-up Pump Stand. Includes contactor, overload, current sensor, and timer relay. Motor controls are an integral component of Aqua-Lab chemical dispensing systems, allowing for integrated and reliable communication while reducing operating costs and unnecessary wear on key components such as the pump system.

VOLTAGE	PART NUMBER
24 VAC	1001385
24 VDC	1001386
120 VAC	1001387

DUAL MOTOR CONTROL UNIT

For use with Multi-Source or Multi-Source with Back-Up Pump Stand. Motor controls are an integral component of Aqua-Lab chemical dispensing systems, allowing for integrated and reliable communication while reducing operating costs and unnecessary wear on key components such as the pump system.

VOLTAGE	PART NUMBER
24 VAC	1001391
24 VDC	1001392
120 VAC	1001393

STEP 4: PICK YOUR ACCESSORIES

See pages 14-17

SYSTEM REQUIREMENTS / SPECIFICATIONS

POWER REQUIREMENTS	
Pumps	**Air-Actuated Valves**
20 GPM	24 VAC or 24 VDC or 120 VAC, 3.5 Watts Per Port
208-230V/3PH/8.9A or 460V/3PH/4.2A	

DIMENSIONS (W x H)					
Pump Assemblies			**Panels**		**Motor Control Unit**
1-Pump	2-Pump	3-Pump	MD3	MD5	Single / Dual
24”x 48”	24” x 48”	36” x 48”	22” x 29”	22” x 29”	14” x 15”

WATER SUPPLY			
Water Inlet Lines	20 GPM		40 GPM
	1” ID		1 1/2” ID or (2x) 1” ID
Solution Outlet Lines	Up to 3 GPM	3-5.5 GPM	6-8 GPM
	1/2” OD Polyflow	1/2” ID Min.	5/8” ID Min.
Operating Water Pressure	200 PSI (Factory Set) Assuming 40 PSI City Feed		
Maximum Water Source Temperature	140˚F		
Water Filtration (Suggested)	50 Micron		

AIR SUPPLY	
Air Inlet Line	3/8” OD Polyflow Per MD Panel
Air Outlet Line	3/8” OD Polyflow Per Application
Air Inlet Pressure	60-120 PSI Dry Air

IN-BAY AUTOMATIC - AQUA-LAB™ EVO

AQUA-LAB EVO™

THE LATEST EVOLUTION IN CHEMICAL DISPENSING SYSTEMS

DESIGNED FOR:

Intended for use with in-bay automatic/rollover and self-serve vehicle wash equipment, Aqua-Lab EVO Chemical Dispensing Systems deliver precisely diluted chemistry to one application at a time. Customizable system is equipped to feed any application in your wash bay, from a ¼ GPM CTA up to high volume foam curtain applications.

UNIQUE FEATURES:

Modular system includes fully integrated pump and motor controls. Dependable composite air-actuated valves were designed and tested for reliable operation up to 100,000 wash cycles.

HOW TO CUSTOMIZE:

Start with your integrated pump and controls base unit and add your manifold wings – available in sets of 3 or 4 - for up to 12 total applications plus foaming air. Systems are delivered pre-wired and pre-plumbed for water, air, and chemical control. Accessories are also available to customize Aqua-Lab to your unique equipment configuration.

CUSTOMIZE YOUR SYSTEM

BASE UNIT WITH INTEGRATED ELECTRICAL CONTROL BOX

UL approved enclosure, with easy wire single control cable.

INTEGRATED 10 GPM PUMP SYSTEM

Includes quick-connects, Wye strainer, bypass pressure regulator and thermal relief valve for safe and reliable operation.

THREE APPLICATION MANIFOLD WING

Includes pneumatic - actuated water valves for (3) applications.

LOW WATER FAULT KIT

(Optional) Notifies or shuts down the car wash in the event of a low water fault - great for unstaffed sites.

FOUR APPLICATION MANIFOLD WING

Includes pneumatic - actuated water valves for (4) applications.

INLET WATER SELECTION VALVE

(Optional) Use two water sources with the same pump - select fresh, RO, reclaim, or tempered water.

FOAMING AIR OR FROST PROTECTION WING

(Optional) Can be used for foaming applications or system blow out.

Includes (3) air valves and (3) regulators.

ACCESSORIES

Accessories are available to customize Aqua-Lab to your unique configuration (See page 14).

SYSTEM REQUIREMENTS/SPECIFICATIONS			
Power Requirements	10 GPM Pump		Air-Actuated Valves
	208-230V/3PH/8A or 460V/3PH/4A		24VAC, 24VDC, or 120VAC, 3.5 Watts per port
Space Requirements	38" W x 44" H With Pump Assembly		
Water Inlet Line	3/4" ID		
Solution Outlet Lines	Up to 3.25 GPM	3.25 GPM-5.5 GPM	5.5-8 GPM
	3/8" ID (1/2" Polyflow)	1/2" ID	5/8" ID
Operating Water Pressure	200 PSI (Factory Set) Assuming 40 PSI City Feed, 180 PSI If Tank Fed		
Max. Water Source Temperature	140°F (+60°C)		
Air Inlet Line	3/8" OD Polyflow		
Air Outlet Line	3/8" OD Polyflow Per Application		
Air Inlet Pressure	20 CFM @ 80-100 PSI Dry Air		

IN-BAY AUTOMATIC - AQUA-LAB™ SD

AQUA-LAB™ SD

SINGLE DOSE CHEMICAL
DISPENSING SYSTEM

DESIGNED FOR:

Intended for use with in-bay automatic/rollover, self service, and dog wash equipment, Aqua-Lab SD Single Dose Chemical Dispensing Manifold Panels deliver precisely diluted chemistry to one application at a time. Manifold panel is ideal for retrofitting sites where an existing pump and controls can be used.

UNIQUE FEATURES:

Dependable composite air-actuated valves were designed and tested for reliable operation up to 100,000 wash cycles.

HOW TO CUSTOMIZE:

Choose your SD manifold panel based on the total number of applications in your wash package. Air panels can be added for foaming air or frost protection. Accessories are also available to customize Aqua-Lab to your unique equipment configuration.

CUSTOMIZE YOUR SYSTEM

AQUA-LAB™ SD4

VOLTAGE	PART NUMBER
24 VAC	1001941
24 VDC	1001961
120 VAC	1001971

AQUA-LAB™ SD8

VOLTAGE	PART NUMBER
24 VAC	1001945
24 VDC	1001965
120 VAC	1001975

AQUA-LAB™ SD5

VOLTAGE	PART NUMBER
24 VAC	1001942
24 VDC	1001962
120 VAC	1001972

AQUA-LAB™ AIR PANEL 3 PORT

VOLTAGE	PART NUMBER
24 VAC	1001540
120 VAC	1001551

AQUA-LAB™ SD6

VOLTAGE	PART NUMBER
24 VAC	1001943
24 VDC	1001963
120 VAC	1001973

AQUA-LAB™ AIR PANEL 5 PORT

VOLTAGE	PART NUMBER
24 VAC	1001541
120 VAC	1001552

AQUA-LAB™ SD7

VOLTAGE	PART NUMBER
24 VAC	1001944
24 VDC	1001964
120 VAC	1001974

AQUA-LAB™ AIR PANEL 6 PORT

VOLTAGE	PART NUMBER
24 VAC	1001542
120 VAC	1001553

SYSTEM REQUIREMENTS/SPECIFICATIONS			
Power Requirements	Air-Actuated Valves		
	24VAC, 24VDC, or 120VAC, 3.5 Watts Per Port		
Dimensions	22" W x 17" H		
Water Inlet Connection	1/4" NPT		
Solution Outlet Lines	Up to 3.25 GPM	3.25 GPM-5.5 GPM	5.5-8 GPM
	3/8" ID (1/2" Polyflow)	1/2" ID	5/8" ID
Operating Water Pressure	200 PSI (Factory Set) Assuming 40 PSI City Feed		
Max. Water Source Temperature	140°F (+60°C)		
Water Filtration (Recommended)	50 Micron		
Air Inlet Line	3/8" OD Polyflow		
Air Inlet Pressure	60-100 PSI		

SINGLE APPLICATION - AQUA-LAB™ CS1

AQUA-LAB™ CS1

COMPACT CHEMICAL DISPENSING SYSTEMS

DESIGNED FOR:

Easily add or replace an arch/applicator in your in-bay automatic or tunnel/conveyor car wash, from standard arches, to triple foam and bug prep. The all-in-one, compact Aqua-Lab CS1 Chemical Dispensing System can be used to replace individual mixing tanks or dosing pumps to get all the benefits of a full Aqua-Lab system.

UNIQUE FEATURES:

Dependable composite air-actuated valves were designed and tested for reliable operation up to 100,000 wash cycles. Plug-n-play systems run on 120V/15A power and tie easily into the signal from your master controls.

HOW TO CUSTOMIZE:

Select your CS1 system based on the type of applicator it's feeding, up to 5 GPM. Systems are delivered with a mounting panel and are pre-wired and pre-plumbed for water, air, and chemical control. Accessories are also available to customize Aqua-Lab to your unique equipment configuration.

SINGLE APPLICATION - AQUA-LAB™ CS1

AQUA-LAB™ CS1 ARCH - *P/N 1001660*

Single chemical dispensing unit for any arch/applicator up to 2.9 GPM flow.

Includes:

(1) 2.9 GPM Pump, 1 HP Motor
(1) Solenoid Actuated Air Valve
(1) Pneumatic Actuated Water Valve
(1) Air Regulator w/ Pressure Gauge
(1) Chem-Flex Chemical Injector

AQUA-LAB™ CS1 PREP - *P/N 1001661*

Single chemical dispensing unit for hand prep or wall cleaning application. Includes independent on/off switch and foaming prep gun applicator with coiled tubing.

Includes:

(1) 2.9 GPM Pump, 1 HP Motor
(1) Solenoid Actuated Air Valve
(1) Pneumatic Actuated Water Valve
(1) Air Regulator w/ Pressure Gauge
(1) Chem-Flex Chemical Injector
(1) Bug Prep Pressure Switch Kit
(1) Foaming Prep Gun w/ 13ft. Coiled, Dual Lumen Tubing

AQUA-LAB™ CS1 TRIPLE FOAM - *P/N 1001662*

Single chemical dispensing unit for duo foam, triple foam or any arch/applicator up to 5 GPM. Includes triple foam manifold and (3) foaming air regulators for individual control.

Includes:

(1) 5 GPM Pump, 1 HP Motor
(1) Solenoid Actuated Air Valve
(1) Pneumatic Actuated Water Valve
(3) Air Regulators w/ Pressure Gauges
(3) Chem-Flex Chemical Injectors
(1) Triple Foam Manifold

SYSTEM REQUIREMENTS/SPECIFICATIONS	
Power	120 Volt, 15 Amp
Inlet Water Pressure	0-60 PSI Inlet Feed at Max. Flow
Operating Water Pressure	200 PSI (Factory Set) Assuming 40 PSI City Feed
Water Inlet Feed	3⁄8" ID Inlet (1/2" ID Inlet on Triple Foam)
Water Filtration	50 Micron (Recommended)
Solution Outlet Line	1/2" OD Polyflow Tubing (Recommended)
Maximum Water Source Temperature	140°F (+60°C)
Air Inlet Pressure	60-100 PSI Dry Air
Air Inlet/Outlet Lines	3⁄8" OD Polyflow Tubing
Weight	50 lbs.
Dimensions	20" L x 12" W x 16" H

AQUA-LAB™ ACCESSORIES

FOR INJECTOR PART NUMBERS & RECOMMENDED STARTING POINTS SEE PAGE 29

DUO-FOAM KIT

Two position quick-connect manifold that fits into a single Aqua-Lab port for dispensing two chemicals or colors to the same applicator. Includes (1) duo-foam manifold, (2) check valves, and (2) 1/2" poly push-connect fittings. *Injectors not included – select injectors based on the type of applicator.*

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD/CS1	1001289

DUO-FOAM KIT FOR FOAM CURTAIN APPLICATIONS

For use with foam curtain applicators that use two foam generators. Requires one port on an Aqua-Lab system and 6.5 GPM of pump capacity. Kit includes (1) duo-foam manifold, (2) check valves, (2) 1/2" poly push-connect fittings, (2) anti-siphon devices, (2) .098 light green injectors, and (2) packs of standard metering tips.

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD	1001869

TRIPLE FOAM KIT

Three position quick-connect manifold that fits into a single Aqua-Lab port for dispensing three chemicals or colors to the same applicator. Includes (1) triple-foam manifold, (3) check valves, and (3) 1/2" poly push-connect fittings. *Injectors not included – select injectors based on the type of applicator.*

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD/CS1	1001288

TRIPLE FOAM KIT FOR FOAM CURTAIN APPLICATIONS

For use with foam curtain applicators that use three foam generators. Requires one port on an Aqua-Lab system and 6.75 GPM of pump capacity. Kit includes (1) triple-foam manifold, (3) check valves, (3) 1/2" poly push-connect fittings, (3) anti-siphon devices, (3) .086 blue injectors, and (3) packs of standard metering tips.

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD	1001948

AQUA-LAB™ ACCESSORIES

QUAD-FOAM KIT

Four position quick-connect manifold that fits into a single Aqua-Lab port for dispensing four chemicals or colors to the same applicator. Includes (1) quad-foam manifold, (4) check valves, and (4) 1/2" poly push-connect fittings. *Injectors not included – select injectors based on the type of applicator.*

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD/CS1	1001781

QUAD-FOAM KIT FOR FOAM CURTAIN APPLICATIONS

For use with foam curtain applicators that use four foam generators. Requires one port on an Aqua-Lab system and 9 GPM of pump capacity. Kit includes (1) quad-foam manifold, (4) check valves, (4) 1/2" poly push-connect fittings, (4) anti-siphon devices, (4) .086 blue injectors, and (4) packs of standard metering tips.

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD	1001949

HIGH FLOW RINSE KIT

The high flow rinse kit is a manifold that holds a single injector and a ball valve, and fits into a single port on an Aqua-Lab panel. Kit includes the manifold, check valve, and 1/2" poly push-connect fittings. Simply connect injector outlet to ball valve outlet when running to your high-flow device and adjust ball valve flow as needed.

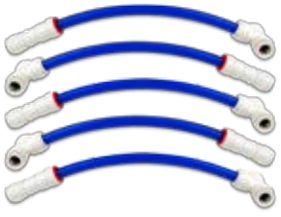
AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD	1001230

CONCENTRATE KIT

The concentrate kit includes (2) chemical inlet distribution blocks and an upgrade to dual injectors. Used for on-site blending of chemicals at the injector (i.e. color, fragrance, surfactant, etc.), to simplify the replacement of chemical barrels.

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD	1001272

ANTI-SIPHON KIT



Anti-siphon kit reduces the effects of water hammer. Prevents drawing concentrated chemical into your solution line when the valve is closed.

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD/CS1	1001436

AQUA-LAB™ ACCESSORIES

VACUUM TESTER KIT

This troubleshooting tool allows you to test if your injector is working correctly. See user manual for testing process.

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD/CS1	1001104

BUG PREP KIT

The Bug Prep Kit allows for fast, foaming, gun-operated prepping using your existing Aqua-Lab system. (Requires one port on an Aqua-Lab MD system for operation.) Kit includes pressure switch manifold with injector, foam generating gun, and a 13 ft. coiled, dual lumen hose (to run air and solution to the gun simultaneously.)

AQUA-LAB SYSTEMS USED IN	PART NUMBER
Complete Bug Prep Kit *(Pressure Switch Manifold, Gun, & Hose)*	
MD/CS1	1001759
Pressure Switch Manifold Only	
MD/CS1	1001558
Foaming Prep Gun & Injector	
MD/CS1	1001754
Foaming Prep Gun Only	
MD/CS1	1001751
Dual Lumen 3/8" Spiral Hose - 13'	
MD/CS1	1001778
Foam Generator For Prep Gun	
MD/CS1	1001750

WATER FILTRATION SYSTEM - COLD

50 micron canister filter for cold water. Enhances the life of your pumps and valves by reducing particulates including sand, scale, and rust. Includes visual pressure gauge for monitoring filter status and bracket for easy mounting.

Uses Pleated Polyester Replacement Filter Cartridge P/N 3000855.

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD/CS1	1001431
Replacement Filter Cartridge	
EVO/MD/SD/CS1	3000855

PC2 PLUG - STAINLESS STEEL

Plugs an unused hydra-cannon manifold position.

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD/CS1	3000022

FLOW-THRU ADAPTER

Allows you to use a single Hydra-Cannon position for an approximate 200 PSI rinse pass.

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD/CS1	3000173

AQUA-LAB™ ACCESSORIES

VINYL HOSE BARB CAP

Allows you to cap the chemical inlet to the injector. Allows additional customization when using dual or triple hose barb injectors.

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD/CS1	3000745

REMOTE METERING DEVICE/CHECK HUB

For use with chemicals that are prone to gelling, this device moves the metering point further from the injector.

(Note: When using this tool in line, the metering tip should be installed on the remote metering device, not on the injector.)

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD/CS1	1001756

3/8" COUPLER

3/8" FNPT x 3/8" FNPT poly coupler used to connect outlet of injector to push-connect fitting.

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD/CS1	3000522

3/8" ELBOW

3/8" FNPT x 3/8" FNPT elbow used to connect injector outlet to push-connect fittings.

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD/CS1	3000523

3/8" X 1/2" PUSH-TO-CONNECT

3/8" MNPT x 1/2" Poly fitting used to connect poly tubing to injector.

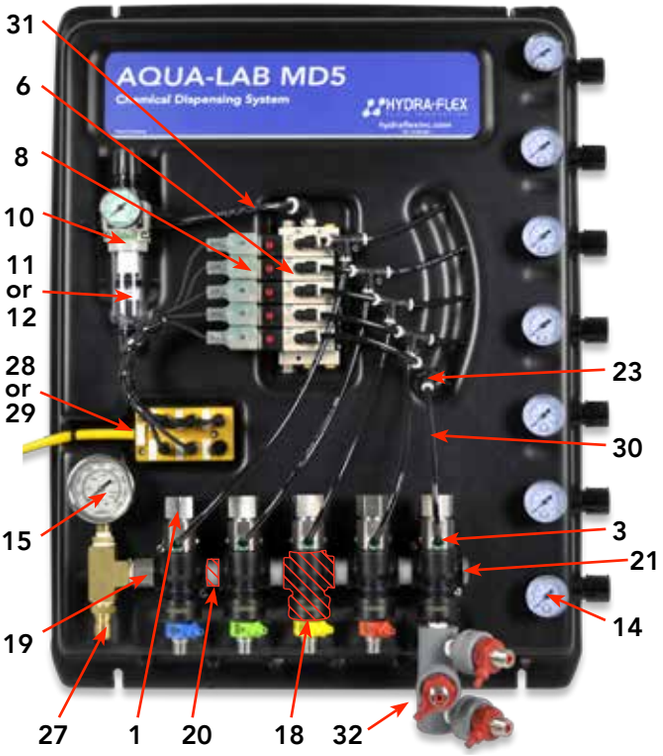
AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD/CS1	3000526

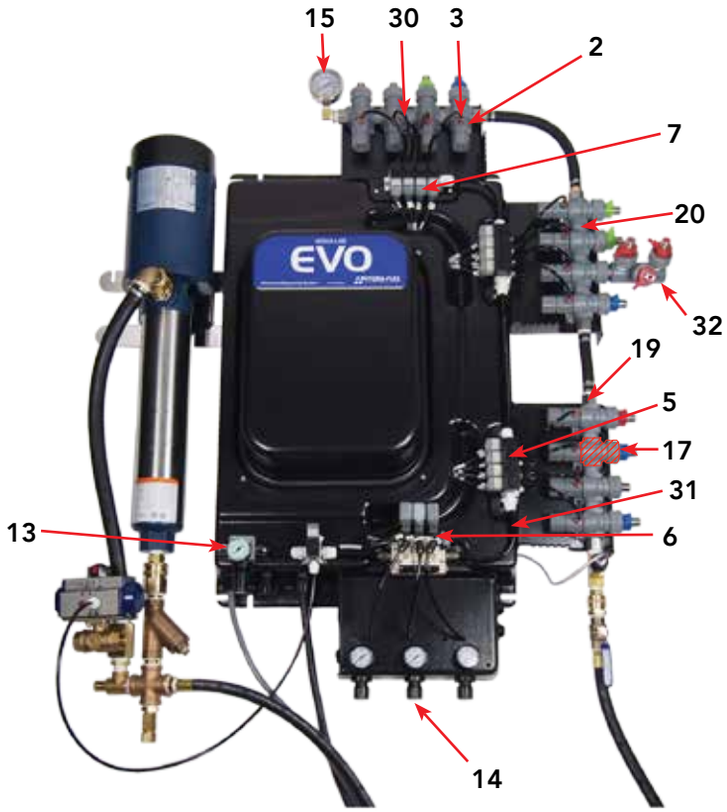
3/8" CHECK VALVE

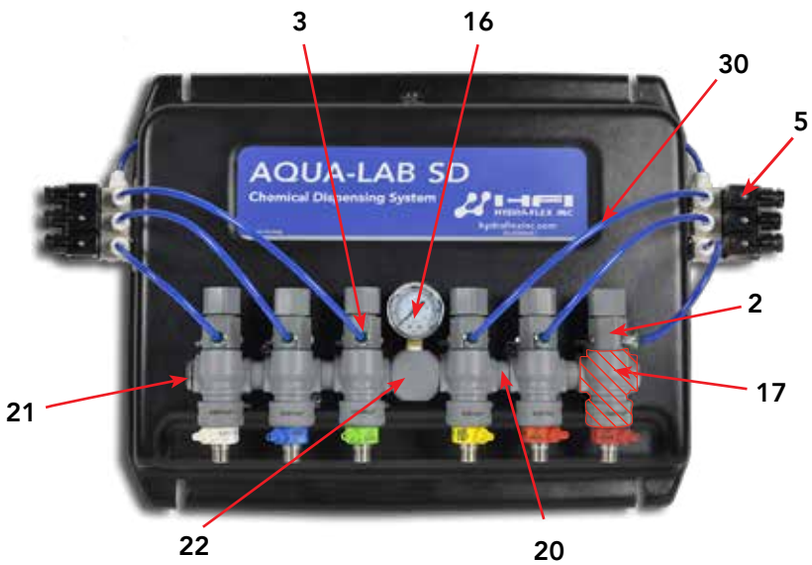
3/8" FNPT x 3/8" FNPT check valve can be used to prevent the backward flow of fluid. Ideal for use with duo, triple, or quad foam devices to prevent the mixing of different colors or chemistries.

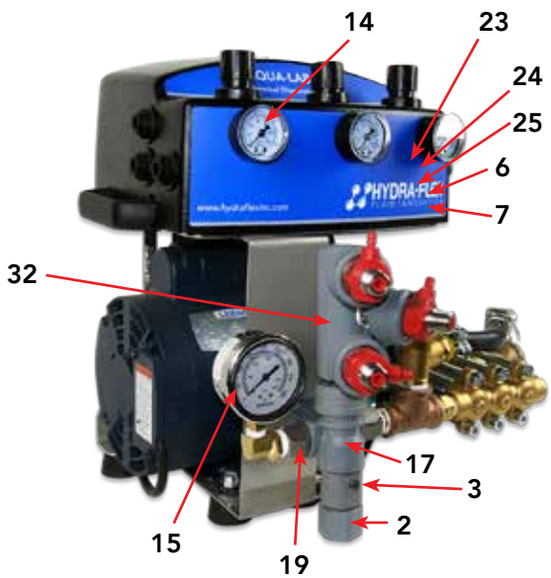
AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD/CS1	3000970

AQUA-LAB™ - PANEL PARTS DIAGRAM









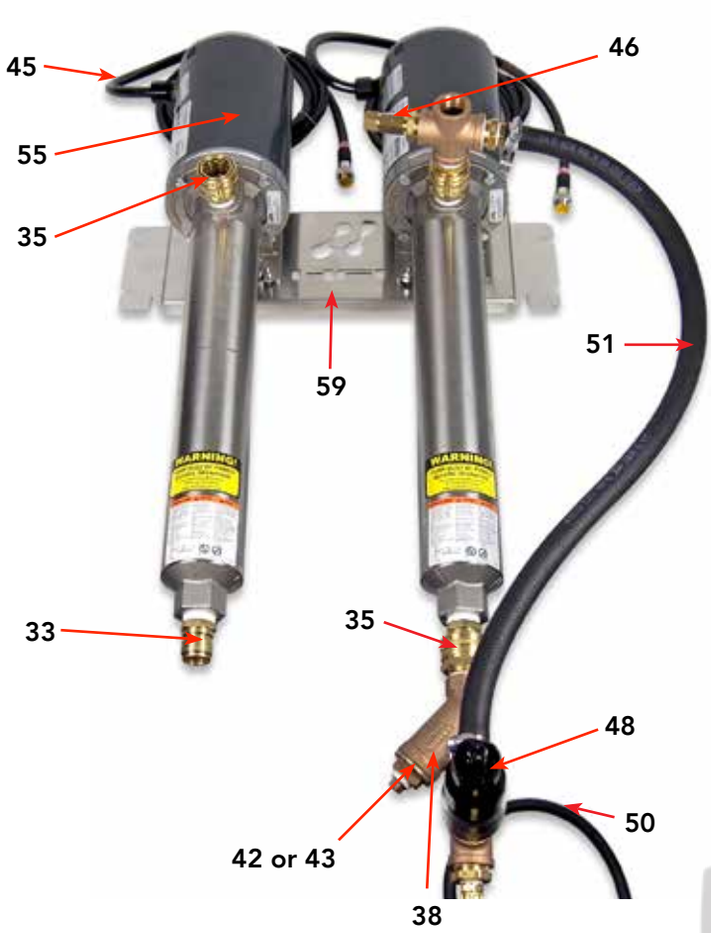
AQUA-LAB™ - PANEL PARTS LIST

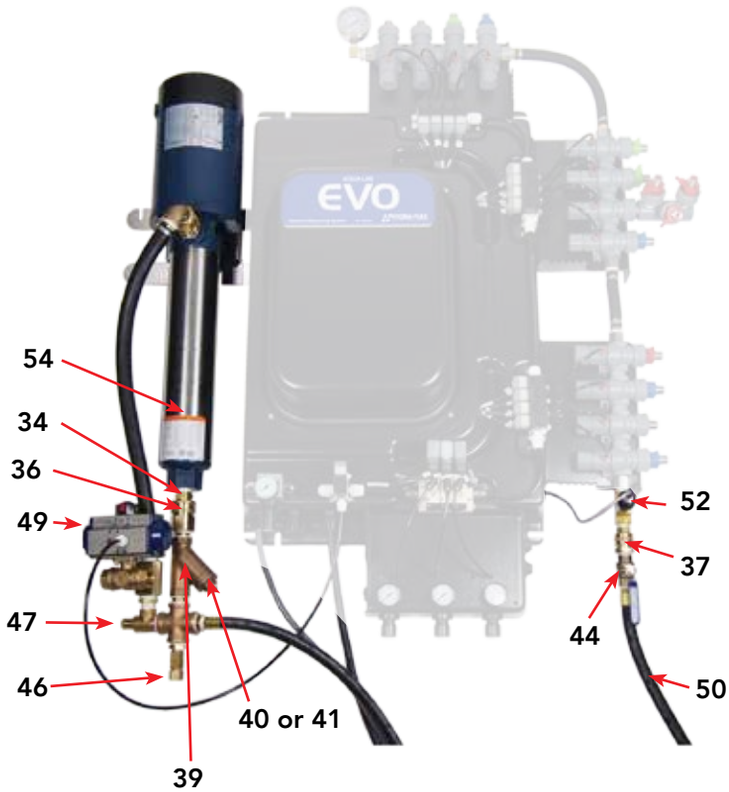
	PART NAME	PART NUMBER
1	Air Actuated Hydra-Cannon Valve Replacement Kit - Stainless Steel	3000925
2	Air Actuated Hydra-Cannon Valve Replacement Kit - Composite	3000931
3	10-32" X 1/4" Push-To-Connect Air Fitting For Air Actuated Valve	3000987
4 (Shown On Page 22)	Hydra-Cannon Valve O-Ring Replacement Kit	1001155
5	Solenoid Actuated Air Valve - Non Foaming	24 VAC - 3001152
		24 VDC - 3001153
		120 VAC - 3001154
6	Solenoid Actuated Air Valve - Foaming	24 VAC - 1001428
		24 VDC - 1001429
		120 VAC - 1001430
7	Din I X Field Wireable Cable - With LED	24 VAC/VDC - 3001157
		120 VAC - 3001156
8	M12 X Din I Cable - With LED	24 VDC or 24 VAC - 3000958
		120 VAC - 3000948
9 (Shown On Page 22)	DIN I 10' - No LED	3000954
10	MD Primary Air Regulator	1001184
11	Primary Air Regulator Replacement Bowl - Aluminum	3000952
12	Primary Air Regulator Replacement Bowl - Plastic	3000870
13	EVO Primary Air Regulator	3001160
14	Foaming Small Air Regulator & 0-60 PSI Gauge	3000808
15	Outlet Pressure Gauge 0-400 PSI Bottom Mount	3000491
16	Outlet Pressure Gauge 0-300 PSI Bottom Mount	3000928
17	Single Grey Hydra-Cannon Replacement Assembly	1001777
18	Single Black Hydra-Cannon Replacement Assembly	1001384
19	1/2" NPT Hydra-Cannon Manifold End Fitting Assembly	1001556
20	Hydra-Cannon Interface Fitting Assembly	1001557
21	Hydra-Cannon End Plug Assembly	3000561
22	SD Cross	3000935
23	1/4" Push To Connect Tee	3000815
24 (Shown On Page 24)	1/4" Push To Connect To 1/8" NPT Elbow	3000803
25 (Shown On Page 24)	1/4" Hose Barb Foaming Air Check Valve	3000819
26 (Shown On Page 24)	1/2" Push To Connect Check Valve	3000875
27	1/2" NPT Male Quick Connect - Brass	3000500
28	M12 Junction Block - 6 Port, With 30' Homerun Cable	3000412
29	M12 Junction Block - 6 Port, With 100' Homerun Cable	3000750
30	1/4" Poly Tubing - Sold in 1' Lengths	3000812
31	3/8" Poly Tubing - Sold in 1' Lengths	3000520
32 (Shown On Page 14)	Triple Foam Manifold Kit (Found On Accessories Page)	1001288

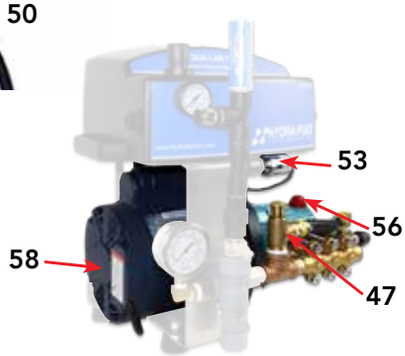
All Panel replacement parts found on pages 22-25.

AQUA-LAB™ - REPLACEMENT PARTS DIAGRAM

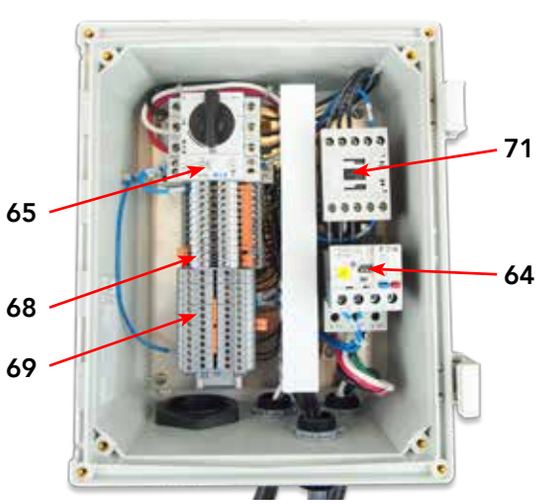
All Pump replacement parts found on pages 25-27.

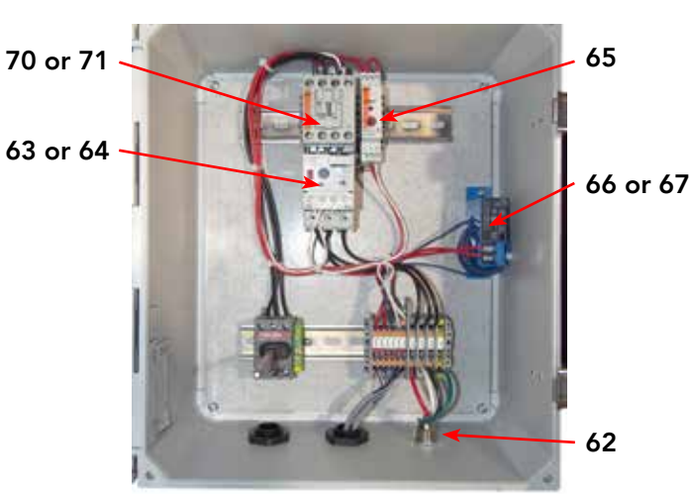






All Motor Control Unit replacement parts found on pages 27-28.





	PART NAME	PART NUMBER
33	1" Male Quick Connect - Brass	3000205
34	3/4" Male Quick Connect - Brass	3000196
35	1" Female Quick Connect - Brass	3000206
36	3/4" Female Quick Connect - Brass	3000197
37	1/2" Female Quick Connect - Brass	3000502
38	1" Wye Strainer - 20 Mesh	3000490
39	3/4" Wye Strainer - 20 Mesh	3000668
40	3/4" NPT T16 Wye Strainer Screen & Gasket Kit	1001936
41	3/4" NPT T15 Wye Strainer Screen & Gasket Kit	1001937
42	1" NPT T16 Wye Strainer Screen & Gasket Kit	1001938
43	1" NPT T15 Wye Strainer Screen & Gasket Kit	1001939
44	1/2" Ball Valve - Brass	3000565
45	Quick Connect 9' Cordset For Pump	3000782
46	Thermal Relief Valve - 1/2" NPT	3000323
47	20 GPM Bypass Pressure Regulator - Brass	3000951
48	40 GPM Bypass Pressure Regulator - Stainless Steel	3000464
49	3/4" Air Actuated 3-Way Ball Valve Inlet Selector	3001165
50	Manifold Inlet Hose 1/2" ID Hose X 1/2" NPT Ends - 72" Long	3000579
51	20 GPM Quick Connect Regulator Pluming Assembly	1001775
52	Low Water Fault Kit	3001205
53	1/4" NPT Pressure Switch	3000969
54	10 GPM Pump	3001159
55	Replacement/Backup 20 GPM Pump	1001362
56	2.9 GPM Pump	3001031
57	5 GPM Pump	3001055
58	Motor - 1 HP	3000821
59	Dual Pump Wall Mount Bracket	3000921
60 (Shown On Page 27)	Triple Pump Wall Mount Bracket	3000950

	PART NAME	PART NUMBER
61 (Shown On Page 27)	M12 Cordset (Grey)	3000347
62	Quick Connect Pump Plug - Female	3000783
63	Thermal Overload - Sprecher & Schuh	3000862
64	Thermal Overload - Eaton	3001335
65	Timer Relay	3000664
66	Current Sensor - AC	3000666
67	Current Sensor - DC	3000866
68	Diode Terminal Block	3001200
69	Terminal Block	3000338
70	Contactor - Sprecher & Schuh	24 VAC - 3000863
		24 VDC - 3000864
		120 VAC - 3000865
71	Contactor - Eaton	24 VAC - 3001336
		24 VDC - 3001337
		120 VAC - 3001338

AQUA-LAB™ REPLACEMENT PARTS

1 AIR ACTUATED HYDRA-CANNON VALVE REPLACEMENT KIT - STAINLESS

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	3000925

2 AIR ACTUATED HYDRA-CANNON VALVE REPLACEMENT KIT - COMPOSITE

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/SD/CS1	3000931

3 10-32" X 1/4" PUSH-TO-CONNECT AIR FITTING FOR AIR ACTUATED VALVE

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD/CS1	3000987

4 HYDRA-CANNON VALVE O-RING REPLACEMENT KIT

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD/CS1	1001155

5 SOLENOID ACTUATED AIR VALVE - NON FOAMING

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/SD	24 VAC 3001152
EVO/SD	24 VDC 3001153
EVO/SD	120 VAC 3001154

6 SOLENOID ACTUATED AIR VALVE - FOAMING

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/CS1	24VAC 1001428
EVO/MD/CS1	24VDC 1001429
EVO/MD/CS1	120VAC 1001430

7 DIN I X FIELD WIREABLE CABLE - WITH LED

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/SD/CS1	24 VAC/VDC 3001157
EVO/SD/CS1	120 VAC 3001156

8 M12 X DIN I CABLE - WITH LED

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	24 VAC/VDC 3000958
MD	120 VAC 3000948

9 DIN I 10' - NO LED

AQUA-LAB SYSTEMS USED IN	PART NUMBER
CS1	3000954

10 MD PRIMARY AIR REGULATOR

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	1001184

AQUA-LAB™ REPLACEMENT PARTS

11 MD PRIMARY AIR REGULATOR REPLACEMENT BOWL - ALUMINUM

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	3000952

12 MD PRIMARY AIR REGULATOR REPLACEMENT BOWL - PLASTIC

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	3000870

13 EVO PRIMARY AIR REGULATOR

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO	3001160

14 FOAMING SMALL AIR REGULATOR & 0-60 PSI GAUGE

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/CS1	3000808

15 OUTLET PRESSURE GAUGE 0-400 PSI BOTTOM MOUNT

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/CS1	3000491

16 OUTLET PRESSURE GAUGE 0-300 PSI BOTTOM MOUNT

AQUA-LAB SYSTEMS USED IN	PART NUMBER
SD	3000928

17 SINGLE GREY HYDRA-CANNON REPLACEMENT ASSEMBLY

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/SD/CS1	1001777

18 SINGLE BLACK HYDRA-CANNON REPLACEMENT ASSEMBLY

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	1001384

19 1/2" NPT HYDRA-CANNON MANIFOLD END FITTING ASSEMBLY

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/CS1	1001556

20 HYDRA-CANNON INTERFACE FITTING ASSEMBLY

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD	1001557

AQUA-LAB™ REPLACEMENT PARTS

21 HYDRA-CANNON END PLUG ASSEMBLY

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD/SD	3000561

22 SD CROSS

AQUA-LAB SYSTEMS USED IN	PART NUMBER
SD	3000935

23 1/4" PUSH TO CONNECT TEE

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD/CS1	3000815

24 1/4" PUSH TO CONNECT TO 1/8" NPT ELBOW

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/CS1	3000803

25 1/4" HOSE BARB FOAMING AIR CHECK VALVE

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/CS1	3000819

26 1/2" PUSH TO CONNECT CHECK VALVE

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD	3000875

27 1/2" NPT MALE QUICK CONNECT - BRASS

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	3000500

28 M12 JUNCTION BLOCK - 6 PORT, WITH 30' HOMERUN CABLE

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	3000412

29 M12 JUNCTION BLOCK - 6 PORT, WITH 100' HOMERUN CABLE

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	3000750

30 1/4" POLY TUBING

Tubing sold in 1' lengths.

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD/SD/CS1	3000812

AQUA-LAB™ REPLACEMENT PARTS

31 3/8" POLY TUBING

Tubing sold in 1' lengths.

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD	3000520

33 1" MALE QUICK CONNECT - BRASS

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	3000205

34 3/4" MALE QUICK CONNECT - BRASS

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO	3000196

35 1" FEMALE QUICK CONNECT - BRASS

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	3000206

36 3/4" FEMALE QUICK CONNECT - BRASS

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO	3000197

37 1/2" FEMALE QUICK CONNECT - BRASS

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	3000502

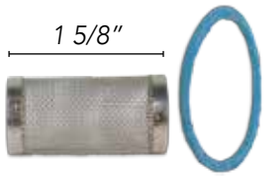
38 1" WYE STRAINER - 20 MESH

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	3000490

39 3/4" WYE STRAINER - 20 MESH

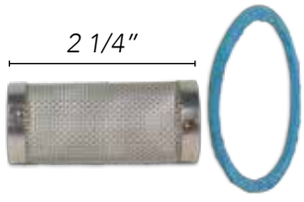
AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO	3000668

40 3/4" NPT T16 WYE STRAINER SCREEN & GASKET KIT



AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO	1001936

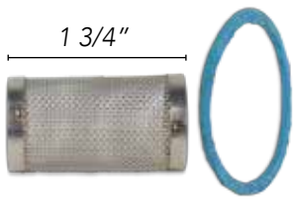
41 3/4" NPT T15 WYE STRAINER SCREEN & GASKET KIT



AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO	1001937

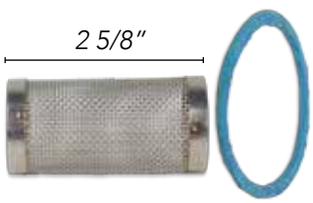
AQUA-LAB™ REPLACEMENT PARTS

42 1" NPT T16 WYE STRAINER SCREEN & GASKET KIT



AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	1001938

43 1" NPT T15 WYE STRAINER SCREEN & GASKET KIT



AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	1001939

44 1/2" BALL VALVE - BRASS

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD	3000565

45 QUICK CONNECT 9' CORDSET FOR PUMP

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	3000782

46 THERMAL RELIEF VALVE - 1/2" NPT

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/ MD	3000323

47 20 GPM BYPASS PRESSURE REGULATOR - BRASS

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/CS1	3000951

48 40 GPM BYPASS PRESSURE REGULATOR - STAINLESS STEEL

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	3000464

49 3/4" AIR ACTUATED 3-WAY BALL VALVE INLET SELECTOR

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO	3001165

50 MANIFOLD INLET 1/2" ID HOSE X 1/2" NPT ENDS - 72" LONG

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD	3000579

51 20 GPM QUICK CONNECT REGULATOR PLUMBING ASSEMBLY

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	1001775

AQUA-LAB™ REPLACEMENT PARTS

52 LOW WATER FAULT KIT

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO	3001205

53 1/4" NPT PRESSURE SWITCH

AQUA-LAB SYSTEMS USED IN	PART NUMBER
CS1	3000969

54 10 GPM PUMP

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO	3001159

55 REPLACEMENT/BACKUP 20 GPM PUMP

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	1001362

56 2.9 GPM PUMP

AQUA-LAB SYSTEMS USED IN	PART NUMBER
CS1	3001031

57 5 GPM PUMP

AQUA-LAB SYSTEMS USED IN	PART NUMBER
CS1	3001055

58 MOTOR - 1 HP

AQUA-LAB SYSTEMS USED IN	PART NUMBER
CS1	3000821

59 DUAL PUMP WALL MOUNT BRACKET

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	3000921

60 TRIPLE PUMP WALL MOUNT BRACKET

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	3000950

61 M12 CORDSET (GREY)

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	3000347

AQUA-LAB™ REPLACEMENT PARTS

62 QUICK CONNECT PUMP PLUG - FEMALE

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	3000783

63 THERMAL OVERLOAD - SPRECHER & SCHUH

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	3000862

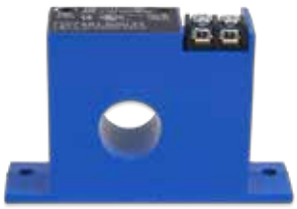
64 THERMAL OVERLOAD - EATON

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD	3001335

65 TIMER RELAY

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD	3000664

66 CURRENT SENSOR - AC



AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	3000666

67 CURRENT SENSOR - DC

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	3000866

68 DIODE TERMINAL BLOCK

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO	3001200

69 TERMINAL BLOCK

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO	3000338

70 CONTACTOR - SPRECHER & SCHUH

AQUA-LAB SYSTEMS USED IN	PART NUMBER
MD	24 VAC 3000863
MD	24 VDC 3000864
MD	120 VAC 3000865

71 CONTACTOR - EATON

AQUA-LAB SYSTEMS USED IN	PART NUMBER
EVO/MD	24 VAC 3001336
EVO/MD	24 VDC 3001337
EVO/MD	120 VAC 3001338

CHEM-FLEX™
CHEMICAL INJECTORS

Injectors are color-coded based on the water flow needed for each individual application, and combine with color-coded chemical metering tips to proportion the precise chemical mix ratio.

CHEMICAL-RESISTANT:

The heart of our Aqua-Lab™ Chemical Dispensing Systems, Chem-Flex™ Injectors are one of the most chemical resistant injectors on the market. These long lasting injectors are manufactured using Kynar® Venturi inserts, stainless steel connections, a Hastelloy spring, a Teflon check ball, and an exclusive XFC o-ring material.

DURABLE:

Dual material construction combines the excellent corrosion and chemical resistance of Kynar® with the mechanical strength of stainless steel.

RELIABLE:

Because of their Kynar-molded wetted surface, Chem-Flex Injectors can last 2-4 times longer than injectors machined from stainless steel or brass.

THREADED INJECTORS
3/8" NPT X 3/8" NPT CONNECTIONS

QUICK CONNECT INJECTORS
PC2 X 3/8" NPT CONNECTIONS

SPECIFICATIONS	
Max Pressure Inlet	**NPT** up to 1000 PSI (69 bar)
	PC2 up to 500 PSI (34 bar)
Max Pressure Outlet	333 PSI (23 bar)
Temperature Range	33°F - 175°F (.5°C - 79°C)
Maximum Wrench Torque	30 ft-lbs (41 N-m)

CHEM-FLEX™ - CHEMICAL INJECTORS

SINGLE HOSE BARB

For diluting one chemical with water.

DUAL HOSE BARB

For diluting two chemicals with water. Ideal for adding a color or scent to your solution.

TRIPLE HOSE BARB

For diluting three chemicals with water. Ideal for adding a color and scent to your solution or for on-site blending of chemistry.

THREADED INJECTORS - 3/8" NPT X 3/8" NPT CONNECTIONS

COLOR	FLOW ORIFICE	FLOW RATE @ 200 PSI	SINGLE BARB	DUAL BARB	TRIPLE BARB
Red	0.057	1.0 GPM	118057	129057	139057
Orange	0.070	1.5 GPM	118070	129070	139070
Grey	0.083	2.0 GPM	118083	129083	139083
Blue	0.086	2.25 GPM	118086	129086	139086
Light Green	0.098	3.25 GPM	118098	129098	139098
Dark Green	0.125	5.5 GPM	118125	129125	139125

QUICK CONNECT INJECTORS - PC2 X 3/8" NPT CONNECTIONS

(For exclusive use with Aqua-Lab™ Chemical Dispensing Systems)

COLOR	FLOW ORIFICE	FLOW RATE @ 200 PSI	SINGLE BARB	DUAL BARB	TRIPLE BARB
White	0.029	0.25 GPM	618029	-	-
Yellow	0.040	0.5 GPM	618040	629040	-
Tan	0.051	0.75 GPM	618051	629051	639051
Red	0.057	1.0 GPM	618057	629057	639057
Orange	0.070	1.5 GPM	618070	629070	639070
Grey	0.083	2.0 GPM	618083	629083	639083
Blue	0.086	2.25 GPM	618086	629086	639086
Light Green	0.098	3.25 GPM	618098	629098	639098
Dark Green	0.125	5.5 GPM	618125	629125	639125

METERING TIPS

Color-coded tips are used to control the amount of chemical that is mixed with the water and the strength of the chemical solution.

THREAD IN STANDARD

Standard Metering Tips Include:

Tan, Orange, Turquoise, Pink, Light Blue, Brown, Red, White, Green, Blue, Yellow, Black, Purple, & Grey.

PART NUMBER
1000643

THREAD IN ULTRA LEAN

Ultra Lean Metering Tips Include:

Copper, Pumpkin, Burgundy, & Green

PART NUMBER
3000470

SPIRAL METERING PLUGS

Example of metering plug assemblies

PART NUMBER
1001290

**Remove all standard metering tips when using a Metering Plug in an application.*

Hydra-Flex developed technology to meter chemical to greater ratios than even ultra lean tips allow. Pack includes (10) spiral plugs, to be inserted into chemical tube, just prior to injector.

3/8" Polyflow (LLDPE) tubing is required to ensure a seal between the tube wall and the flats on the OD of the Metering Plug.

OPTIMIZING YOUR SYSTEM

What Do Injectors Do? *Increases or decreases the amount of water used.*

What Do Metering Tips Do? *Increases or decreases the amount of chemical in the solution.*

What Do Nozzles Do? *Determines the application pattern and back-pressure of the solution.*

AQUA-LAB™ RECOMMENDED SETUP STARTING POINTS

APPLICATOR	INJECTOR(S) PART NUMBER/COLOR		
Scent Dispenser	618057 (1.0 GPM)		
CTA Nozzles (For Showerhead, See Below)	618057 (1.0 GPM)		
Foam Stick	618070 (1.5 GPM)		
Mitter/Wrap Nozzles	618070 (1.5 GPM)		
Undercarriage/Rust Inhibitor	618083 (2.0 GPM)		
V Jet Or Flat Fan Nozzle Arch	618086 (2.25 GPM)		
K12 Nozzle Arch	618086 (2.25 GPM)		
K15 Nozzle Arch	618098 (3.25 GPM)		
Hockey Puck	1 Row Of Holes 618051 (0.75 GPM)	2 Rows Of Holes 618057 (1.0 GPM)	3 Rows Of Holes 618070 (1.5 GPM)
Showerhead	1 Row Of Holes 618057 (1.0 GPM)	2 Rows Of Holes 618070 (1.5 GPM)	3 Rows Of Holes 618083 (2.0 GPM)
Rain Bar	1 Row Of Holes 618086 (2.25 GPM)	2 Rows Of Holes 618098 (3.25 GPM)	3 Rows Of Holes 618125 (5.5 GPM)
Foam Curtain - Choose Foam Accessory Based On # Of Inputs/Foam Generators	Duo-Foam w/ (2X) 618098 (3.25 GPM)	Triple-Foam w/ (3X) 618086 (2.25 GPM)	Quad-Foam w/ (4X) 618086 (2.25 GPM)
High Flow Foam Curtain Application (10+ GPM)	High Flow Device w/ 618086 (2.25 GPM)		

Foaming Air: Start at 25 PSI (adjust based on unique application)

CHEMICAL DILUTION RATIO CHART

NOTE: ***Dilution ratios given below are based on drawing water through the metering tips and are meant as a starting point for system configuration. Results are expected to vary when drawing chemicals due to differences in viscosity and temperature.***

(Assumes feed pressure of 200 PSI)

		#8-32 METERING TIPS								
	Flow Rate (GPM) at 200 PSI	0.25	0.50	0.75	1.00	1.50	2.00	2.25	3.25	5.50
	Injector Color →	White	Yellow	Tan	Red	Orange	Gray	Blue	Light Green	Dark Green
	Nozzle Size →	0.029" (0.7 mm)	0.040" (1.0 mm)	0.051" (1.3 mm)	0.057" (1.4 mm)	0.070" (1.8 mm)	0.083" (2.1 mm)	0.086" (2.2 mm)	0.098" (2.5 mm)	0.125" (3.2 mm)
Metering Tip	Copper	1: 57	1: 104	1: 155	1: 195	1: 281	1: 406	1: 468	1: 629	1: 1074
	Pumpkin	1: 43	1: 82	1: 119	1: 126	1: 238	1: 348	1: 398	1: 554	1: 946
	Burgundy	1: 34	1: 67	1: 97	1: 111	1: 207	1: 304	1: 347	1: 495	1: 845
	Lime	1: 28	1: 57	1: 81	1: 100	1: 183	1: 270	1: 307	1: 447	1: 764
	Tan	1: 28	1: 57	1: 81	1: 100	1: 183	1: 270	1: 307	1: 447	1: 764
	Orange	1: 23	1: 44	1: 64	1: 78	1: 137	1: 196	1: 215	1: 314	1: 536
	Turquoise	1: 17	1: 31	1: 45	1: 55	1: 91	1: 126	1: 134	1: 197	1: 336
	Pink	1: 14	1: 24	1: 35	1: 42	1: 68	1: 93	1: 98	1: 143	1: 224
	Light Blue	1: 11	1: 17	1: 24	1: 31	1: 47	1: 64	1: 66	1: 98	1: 166
	Brown	1: 10	1: 15	1: 22	1: 28	1: 43	1: 58	1: 59	1: 88	1: 150
	Red		1: 12	1: 17	1: 23	1: 34	1: 45	1: 46	1: 69	1: 116
	White		1: 12	1: 16	1: 22	1: 31	1: 42	1: 43	1: 64	1: 108
	Green		1: 11	1: 14	1: 20	1: 28	1: 37	1: 38	1: 55	1: 94
	Blue		1: 10	1: 12	1: 17	1: 23	1: 30	1: 31	1: 46	1: 77
	Yellow			1: 9	1: 12	1: 16	1: 20	1: 22	1: 31	1: 52
	Black				1: 10	1: 13	1: 16	1: 17	1: 24	1: 40
	Purple				1: 6.6	1: 8.3	1: 9	1: 10	1: 13	1: 21
	Gray				1: 5.3	1: 6.7	1: 6.9	1: 7.6	1: 10	1: 16
	Open				1: 4.9	1: 5.3	1: 5.2	1: 6.0	1: 6.1	1: 10

		SPIRAL METERING PLUGS								
	Flow Rate (GPM) at 200 PSI	0.25	0.50	0.75	1.00	1.50	2.00	2.25	3.25	5.50
	Injector Color →	White	Yellow	Tan	Red	Orange	Gray	Blue	Light Green	Dark Green
	Nozzle Size →	0.029" (0.7 mm)	0.040" (1.0 mm)	0.051" (1.3 mm)	0.057" (1.4 mm)	0.070" (1.8 mm)	0.083" (2.1 mm)	0.086" (2.2 mm)	0.098" (2.5 mm)	0.125" (3.2 mm)
Spiral Plug Length	3.00"	1: 251	1: 503	1: 754	1: 1006	1: 1509	1: 2012	1: 2263	1: 3269	1: 5532
	2.00"	1: 181	1: 363	1: 544	1: 726	1: 1089	1: 1451	1: 1633	1: 2359	1: 3991
	1.00"	1: 104	1: 208	1: 311	1: 415	1: 623	1: 831	1: 934	1: 1350	1: 2284
	0.75"	1: 82	1: 165	1: 247	1: 329	1: 494	1: 659	1: 741	1: 1071	1: 1812
	0.50"	1: 59	1: 119	1: 178	1: 238	1: 357	1: 475	1: 535	1: 772	1: 1307
	0.25"	1: 34	1: 68	1: 102	1: 136	1: 204	1: 272	1: 306	1: 442	1: 748

BLAST-TEC PRO™ - ROTATING TURBO NOZZLES

BLAST-TEC PRO™

ROTATING TURBO NOZZLE - 1000 PSI

The Blast-Tec Pro was designed specifically for high-pressure, high-impact vehicle wash applications including wheel blaster, undercarriage wash, rinsing, and high pressure cleaning.

GREATER IMPACT:

Blasts a 0° straight water stream at up to 1,000 PSI, while rotating at 1500-2500 RPM to provide a 24° or 30° cone of coverage.

LESS WATER:

Greater impingement allows you to use a smaller Blast-Tec Pro nozzle size while getting the same impact as nozzles with higher GPM flow rates.

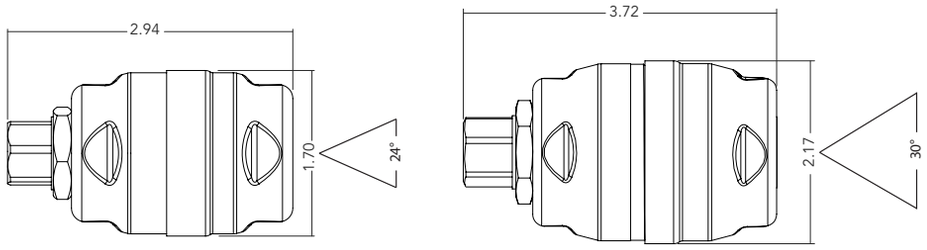
HEAVY DUTY:

Corrosion resistant stainless steel housing and precision machined tungsten carbide wear surfaces offer long life and smooth operation.

LONG LASTING:

Minimal number of components, reduces complexity for better reliability – lasts five times longer than the competition. Repair kits are also available for extended life and lower overall operating costs.

BLAST-TEC PRO™ - ROTATING TURBO NOZZLES



ROTATING NOZZLE ORDER GUIDE		BLAST-TEC PRO 324 24˚ ANGLE		BLAST-TEC PRO 430 30˚ ANGLE	
NOZZLE NUMBER	FLOW RATE (@1000 PSI)	1/4" BSPP INLET	1/4" NPT INLET	1/4" BSPP INLET	1/4" NPT INLET
2.0	1.00 GPM	1001106	1001600	1001631	1001620
3.0	1.50 GPM	1001107	1001601	1001632	1001621
3.5	1.75 GPM	1001108	1001602	1001633	1001622
4.0	2.00 GPM	1001109	1001603	1001634	1001623
4.5	2.25 GPM	1001110	1001604	1001635	1001624
5.0	2.50 GPM	1001111	1001605	1001636	1001625
5.5	2.75 GPM	1001112	1001606	1001637	1001626
6.0	3.00 GPM	1001113	1001607	1001638	1001627

BLAST-TEC PRO 324 & 430 REPAIR KITS

Instead of replacing your entire nozzle, Blast-Tec Pro repair kits can be used for extended nozzle life and lower overall operating costs. Each repair kit includes: dome screen, mini rotor assembly, mini rubber boot, seat, o-ring, and seat retainer.

NOZZLE NUMBER	FLOW RATE (@1000 PSI)	324 REPAIR KIT	430 REPAIR KIT
2.0	1.00 GPM	1000273	1001640
3.0	1.50 GPM	1001088	1001641
3.5	1.75 GPM	1000274	1001642
4.0	2.00 GPM	1001089	1001643
4.5	2.25 GPM	1001090	1001644
5.0	2.50 GPM	1001091	1001645
5.5	2.75 GPM	1001092	1001646
6.0	3.00 GPM	1001093	1001647

SPECIFICATIONS	
Inlet Pressure (Min/Max)	800 - 1,200 PSI
Optimal Operating Distance	12"- 32"
Maximum Temperature	+120˚F (+49˚C)
Housing Material	Stainless Steel
Weight: Blast-Tec Pro 324	0.50 lbs
Weight: Blast-Tec Pro 430	0.95 lbs

BLAST-TEC PRO™ - RETROFIT KITS

COLEMAN WATER WIZARD RETROFIT KIT

Coleman Water Wizard Nozzle Retrofit kits use up to 47% less water* than the factory standard nozzles. Kit includes nozzles for rockers, top and side oscillators. (Kit may require additional parts to be purchased from Coleman Hanna.)

KIT INCLUDES	PART NUMBER
(14) 2.0 Blast-Tec Pro 324 Nozzles (P/N 1001106), (10) 3.5 Blast-Tec Pro 324 Nozzles (P/N 1001108), and (24) 1/4" BSPP x 1/4" NPT Brass Adapters (P/N 3000572)	1001394

SONNY'S SPINNER/PENDULUM NOZZLE RETROFIT KIT

The Sonny's Spinner/Pendulum Nozzle Retrofit Kit can use up to 40% less water.* Replaces (10) factory-standard nozzles with (6) powerful Blast-Tec Pro nozzles. Eliminates troublesome spinner mechanism, reducing maintenance. Kit includes driver's and passenger's side.

KIT INCLUDES	PART NUMBER
(6) 4.0 Blast-Tec Pro 324 Nozzles (P/N 1001109), (6) 1/4" BSPP x NPT Brass Adapters (P/N 3000572), and (2) Spinner Eliminator Adapter (P/N 3000959)	1001448

SONNY'S OMNI I SIDE/WHEEL BLASTER NOZZLE RETROFIT KIT

The Sonny's OMNI I Side/Wheel Blaster can Nozzle Retrofit Kit can use up to 45% less water*. Replaces 20 factory-standard nozzles with 6 powerful Blast-Tec Pro Rotating Turbo Nozzles. Kit is designed for single nozzle manifold, includes both driver's and passenger's side. Order two kits for dual manifold.

KIT INCLUDES	PART NUMBER
(6) 4.0 Blast-Tec Pro 324 Nozzles (P/N 1001109), (6) 1/4" BSPP x NPT Brass Adapters (P/N 3000572), (6) 1/4" NPT Brass Street Elbow (P/N 3000670), and (16) 1/4" NPT Brass Hex Socket Plug (P/N 3000094)	1001441

SONNY'S OMNI I TOP/BUMPER BLASTER NOZZLE RETROFIT KIT

The Sonny's OMNI I Top/Bumper Blaster can Nozzle Retrofit Kit use up to 27% less water.* Replaces 10 factory-standard nozzles with 4 powerful Blast-Tec Pro Rotating Turbo Nozzles. Kit designed for single nozzle manifold. Order two kits for dual manifold.

KIT INCLUDES	PART NUMBER
(4) 4.0 Blast-Tec Pro 324 Nozzles (P/N 1001109), (4) 1/4" BSPP x NPT Brass Adapters (P/N 3000572), (4) 1/4" NPT Brass Street Elbow (P/N 3000670), and (7) 1/4" NPT Brass Hex Socket Plug (P/N 3000094)	1001447

**Water savings calculations are based on 1000 PSI and minimum required nozzle sizes. Actual water savings may vary based on unique application.*

BLAST-TEC PRO™ - RETROFIT KITS & ADAPTERS

MACNEIL MAGNUM WHEEL BLASTER NOZZLE RETROFIT KITS

MacNeil Magnum 300

MacNeil Magnum 600

MacNeil Magnum 900

MacNeil Magnum Kits can use up to 10% less water* than legacy factory-standard nozzles. (Blast-Tec Pro Nozzles are now factory-standard.) Kits include nozzles for both driver's and passenger's side.

KIT	KIT INCLUDES	PART NUMBER
MacNeil Magnum 300	(6) 3.5 Blast-Tec Pro 324 Nozzles (P/N1001108), (6) 1/4" BSPP x 1/4 NPT Brass Adapter (P/N 3000572)	1001443
MacNeil Magnum 600	(12) 3.5 Blast-Tec Pro 324 Nozzles (P/N1001108), (12) 1/4" BSPP x 1/4 NPT Brass Adapter (P/N 3000572)	1001444
MacNeil Magnum 900	(18) 3.5 Blast-Tec Pro 324 Nozzles (P/N1001108), (18) 1/4" BSPP x 1/4 NPT Brass Adapter (P/N 3000572)	1001445

**Water savings calculations are based on 1000 PSI and minimum required nozzle sizes. Actual water savings may vary based on unique application.*

ADAPTERS

1/4" BSPP X 1/4" NPT KNUCKLE BALL JOINT ADAPTER

The Knuckle Ball Joint Adapter gives you the flexibility to point your nozzles directly at problem areas such as mirrors, etc. Adjustable ball easily swivels for custom nozzle positioning, adding up to 20 degrees actuation.

PART NUMBER
1001755

1/4" BSPP X 1/4" NPT ADAPTER

PART NUMBER
3000572

1/4" BSPP X 1/8" NPT ADAPTER

PART NUMBER
3000581

1/4" MBSP X 3/8" FNPT ADAPTER

PART NUMBER
3000988

NOZZLE SELECTION AND SIZING

Proper nozzle selection should take into consideration the type of application, your pressure setting, distance from the substrate, and the nozzle number size.

Pump Capacity – Your pump must be capable of producing 1000 PSI for the total GPM flow rate of all the nozzles required for the application. For example, a wheel blaster with three #4 Nozzles (2 GPM per nozzle) on each the driver's and passenger's side (total of 6 nozzles) will require pump capacity of 12 GPM at 1000 PSI.

Or Use This Formula To Calculate:

$$\text{Pump Capacity} = (\text{Quantity of Nozzles}) \times \left(\text{Nozzle \#} \sqrt{\frac{\text{Application Pressure (PSI)}}{4000}}\right)$$

BSPP vs NPT Inlet Connection:

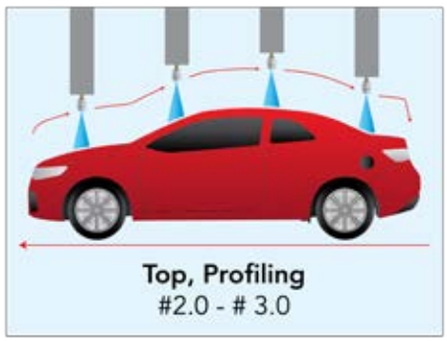
To meet the needs of the majority of our customers, Blast-Tec Pro Nozzles are available with either 1/4" NPT or BSPP inlet connections.

- BSPP Connection – Has an o-ring seal and can be hand-tightened
- NPT Connection – Requires thread tape

Recommendations by Application:

- High Pressure Rinse – Use a higher flow nozzle, position further away from the vehicle
  - *Tip – Our 30° nozzle will provide better vehicle coverage.*
- High Pressure Cleaning – Use a lower flow nozzle, position closer to the vehicle, and/or use more nozzles
  - *Tip – Our 24° nozzle will provide better cleaning power.*

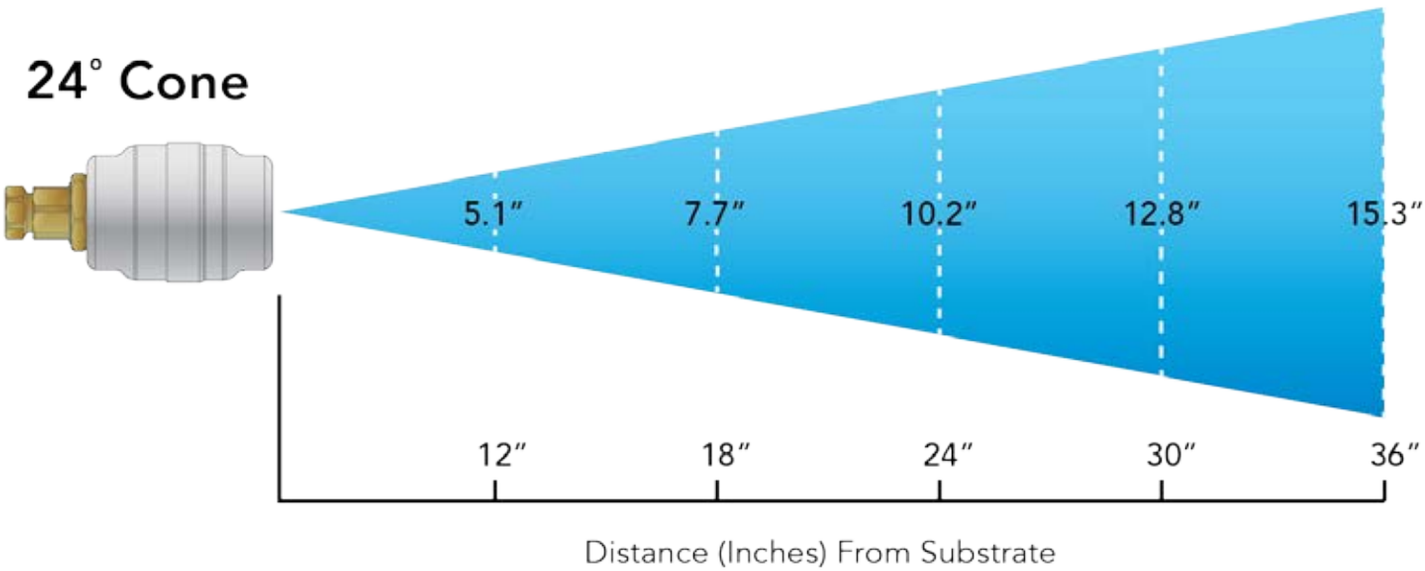
RECOMMENDED STARTING POINTS

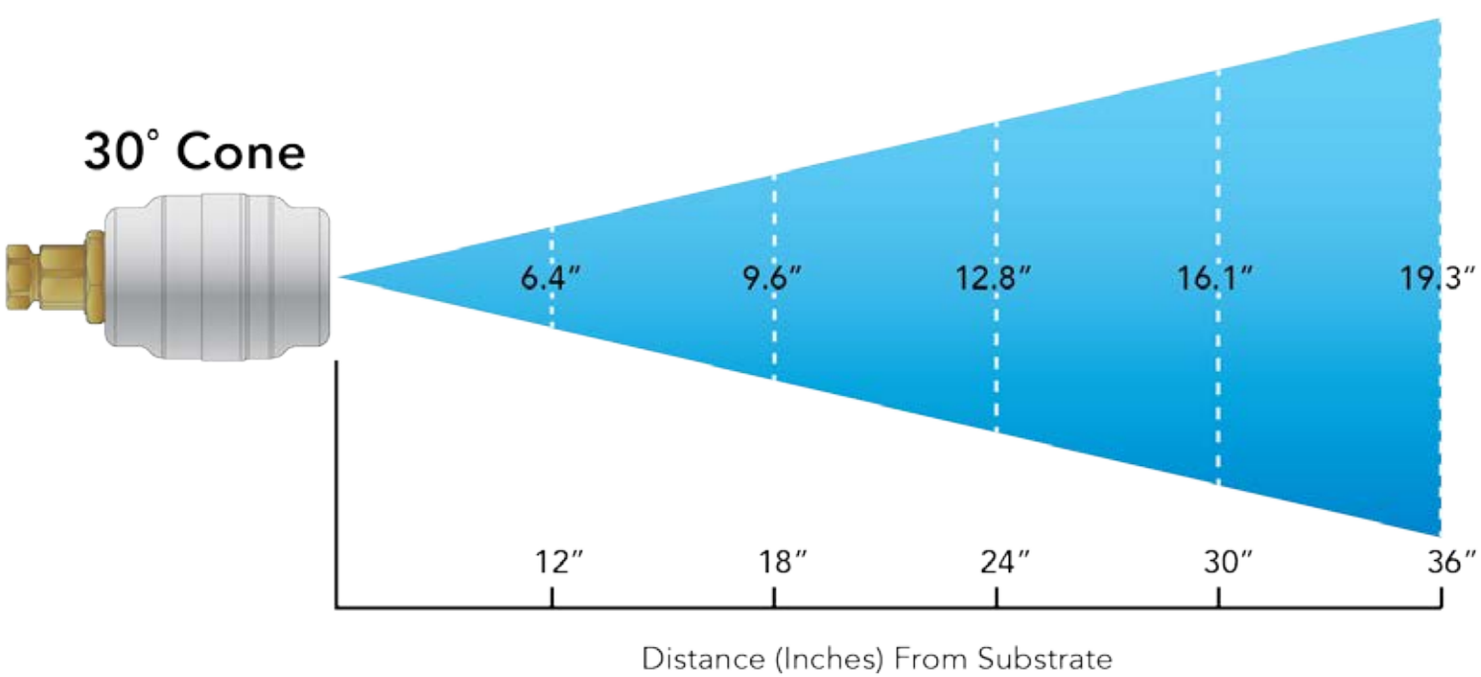


!WARNING!

It is not recommended to use a high-pressure valve to split your high-pressure pump flow to multiple applications. This may cause a pressure spike at the nozzle and can pop threads or crack the nozzle body causing premature failure.

VEHICLE COVERAGE/NOZZLE SPACING/DISTANCE FROM SUBSTRATE





!WARNING!

The closer to the substrate, the higher the impact of the nozzle. Positioning the nozzle too close to the substrate may cause damage. If reduced impingement is required, use a nozzle with less flow. Ex. If using a # 4.0 has too high impact, switch to a smaller nozzle such as a # 3.0 or # 2.0. DO NOT REDUCE WATER PRESSURE BELOW 800 PSI AS A WAY TO REDUCE IMPINGEMENT.

AQUA-LAB™

Hydra-Flex, Inc. warrants its equipment to be free from defect in material or workmanship under proper normal proper use for **a period of one (1) year beginning the date of purchase.**

Hydra-Flex, Inc.'s liability shall be limited to repair or replacement of parts found to be defective within the warranty period and following Hydra-Flex, Inc.'s inspection. Hydra-Flex, Inc. shall have the option requiring the return of defective material to establish the purchaser's claim. In the event of repair or replacement this limited warranty is non-cumulative.

This warranty is subject to the following limitations: 1.) Labor to repair or replace parts is warranted to Purchaser during normal business hours through an authorized distributor or an authorized contractor of Seller, or direct with Hydra-Flex, Inc., for 90 calendar days from date of invoice. Labor warranty excludes all claims for warranty on labor that are determined to be nuisance service calls, misuse, lack of operational training, neglect, improper installation, repair, alteration, act of God, or accident from third party damage. Hydra-Flex, Inc. reserves the sole right to make determinations on the above stated limitation. All labor and service provided beyond the expiration of the labor warranty period shall be charged to the Purchaser at the rates established by the local authorized distributor or value added reseller (VAR) or direct with Hydra-Flex, Inc. 2.) Transportation charges are not included in warranty claims.

This warranty is based upon the proper care and maintenance of the warranted equipment. Warranty does not apply if the merchandise is altered or modified in any way. Warranty does not apply to any equipment which has been subject to misuse, inappropriate use of tools, including exposure to harsh chemicals, neglect, lack of maintenance, freezing, fluid hammer, accident, third party damage, fluid impurities such as sand or minerals, acts of God or acts of war. The following list includes some, but not all, of the particularly corrosive chemicals that if used in conjunction with Hydra-Flex, Inc.'s equipment will void the warranty; Hydrofluoric Acid, Ammonium Bi-flouride, Bromic Acid, Muriatic Acid, Sulfonic Acid, Phosphoric Acid, Hydrogen Cyanide, Hydrochloric Acid, Sodium Hydroxide and Chlorinated Solvents. The Purchaser also agrees to accept the responsibility and liability for the selection and use of any chemicals listed above. This warranty shall be void for all equipment failures and premature component wear caused by the use of reclaim water in the wash process; specifically, failure to high pressure valves, high pressure pumps, injectors and un-loader valves. Nor does it apply to any equipment which has been repaired or altered by anyone not so authorized by Hydra-Flex, Inc. All equipment must be properly installed in accordance with specified plumbing, electrical, and mechanical requirements. The warranty does not apply to normal wear and tear or routine maintenance components as described in the equipment manual.

Except as expressly stated herein, Hydra-Flex, Inc. shall not be liable for damages of any kind in connection with the purchase, maintenance, or use of this equipment including loss of profits and all claims for consequential damages. Hydra-Flex, Inc. makes no warranty, express or implied, with respect to the design or operation of any entire system, in which Sellers goods sold hereunder are mere components. This limited warranty is in lieu of all other warranties expressed or implied. Hydra-Flex, Inc. neither assumes nor authorizes any person to assume for it any other obligation or liability in connection herewith. This warranty is neither assignable nor transferable.

Transportation damage claims are to be submitted to the carrier of the damaged material.

WARRANTY

BLAST-TEC™ PRO NOZZLES

Blast-Tec Pro Nozzles are warranted to be free from defects in material and workmanship under normal use and service. "Normal use and service" means not in excess of the recommended pressures, temperatures and chemicals or handling fluids not compatible with component materials. This warranty shall not apply to any accessory which has been repaired or altered to affect the performance or reliability of the product.

Warranty does not apply to a) freight damage, b) freezing damage, c) damage caused by parts or accessories not obtained from or approved by Hydra-Flex, Inc., d) damage from misuse and/or misapplication, e) damage due to poor water quality, f) normal wear of moving parts, components affected by moving parts or surfaces meant to wear.

Period of warranty shall be 90 days from the date product is shipped from Hydra-Flex, Inc.'s facility. Liability of manufacturer under the foregoing warranty is limited to repair or replacement of that product at the option of Hydra-Flex, Inc., which according to our investigation was deemed defective at time of shipment. This warranty is in lieu of all other warranties, expressed or implied, including any warranty of merchantability and/or any and all other obligations or liabilities on the part of Hydra-Flex, Inc. Return merchandise authorization number, to return units for repair or replacement, must be granted in advance of return.

CHEM-FLEX™ INJECTOR

Chem-Flex Injectors are warranted to be free from defects in material and workmanship under normal use and service. "Normal use and service" means not in excess of the recommended pressures, temperatures and chemicals or handling fluids not compatible with component materials. Rubber and synthetic rubber parts such as "o"- rings, diaphragms, squeeze tubing and gaskets are considered expendable and are not covered under warranty. This warranty shall not apply to any accessory which has been repaired or altered to affect the performance or reliability of the product.

Warranty does not apply to a) freight damage, b) freezing damage, c) damage caused by parts or accessories not obtained from or approved by Hydra-Flex, Inc., d) damage from misuse and/or misapplication, e) normal wear of moving parts or components affected by moving parts.

Period of warranty shall be 1 year from the date product is shipped from Hydra-Flex, Inc.'s facility. Liability of manufacturer under the foregoing warranty is limited to repair or replacement of that product at the option of Hydra-Flex Inc., which according to our investigation was deemed defective at time of shipment. This warranty is in lieu of all other warranties, expressed or implied, including any warranty of merchantability and/or any and all other obligations or liabilities on the part of Hydra-Flex, Inc. Return merchandise authorization number, to return units for repair or replacement, must be granted in advance of return

RETURNS

If you wish to return any product that is new and unused, please call for an RMA number within 60 days to receive credit with no restocking charge. After 60 days, a restocking fee of 15% or $40 (whichever is greater) will apply.

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